

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fluorescent protein derived from Green Fluorescent Protein (GFP) or any functional GFP analogue, wherein the amino acid in position 1 preceding the chromophore has been mutated and wherein the Glutamic acid in position 222 has been ~~mutated~~ substituted by an amino acid selected from the group consisting of G, A, V, L and I, wherein said mutated GFP has an excitation maximum at a higher wavelength and the fluorescence is increased when the mutated GFP is expressed in cells incubated at a temperature of 30°C or above compared to wild-type GFP.

2. (Currently Amended) A fluorescent protein according to claim 1, wherein the chromophore is in position ~~65-57~~ 65-67 of the predicted primary amino acid sequence of GFP.

3. (Original) A fluorescent protein according to claim 1 or 2, said protein being derived from *Aequoria victoria* or *Renilla*.

4. (Original) A fluorescent protein according to claim 1, wherein the amino acid F in position 64 of the GFP has been substituted by an aliphatic amino acid.
5. (Original) A fluorescent protein according claim 1, wherein the amino acid F in position 64 of the GFP has been substituted by an amino acid selected from the group consisting of L, I, V, A and G.
6. (Original) A fluorescent protein according to claim 1, wherein the amino acid F in position 64 of the GFP has been substituted by L.
7. (Cancelled)
8. (Original) A fluorescent protein according to claim 1, wherein the amino acid E in position 222 of the GFP has been substituted by G.
9. (Original) A fluorescent protein according to claim 1 having the amino acid sequence disclosed in SEQ ID NO: 4.

10. (Withdrawn) A fluorescent protein according to claim 1 having the amino acid sequence disclosed in SEQ ID NO: 8.

11. (Original) A fusion compound comprising a fluorescent protein (GFP) according to claim 1, wherein the GFP is linked to a polypeptide.

12. (Original) A fusion compound according to claim 11, wherein the polypeptide is a kinase, ~~preferably the catalytic subunit of protein kinase A, or protein kinase C, or Erk1,~~ or a cytoskeletal element.

13. (Withdrawn) A nucleotide sequence coding for the fluorescent protein of claim 1.

14. (Withdrawn) A nucleotide sequence according to claim 13, shown in SEQ ID NO: 3.

15. (Withdrawn) A nucleotide sequence according to claim 14, shown in SEQ ID NO: 7.

16. (Withdrawn) A nucleotide sequence according claim 13 in the form of a DNA sequence.

17. (Withdrawn) A host transformed with a DNA construct according to any one of claims 13-16.

18. (Withdrawn) A process for preparing a polypeptide, comprising  
cultivating a host according to claim 17 and  
obtaining therefrom the polypeptide expressed by said nucleotide sequence.

19. (Withdrawn) A method for measuring the protein kinase activity, dephosphorylation activity, or protein redistribution in an in vitro assay comprised of  
transforming a host cell with a DNA construct according to claim 13 and  
measuring the fluorescence of cells transformed with the DNA construct.

20. (New) A fusion compound according to claim 12, wherein the polypeptide is the catalytic subunit of protein kinase A, protein kinase C, or Erk1.

21. (New) A fluorescent protein according to claim 1, wherein the amino acid E in position 222 of the GFP has been substituted by an amino acid selected from the group consisting of A, V, L and I.